I-69 Evansville to Indianapolis FEIS
Section 404(b)(1) (LEDPA) Consistency Analysis

Introduction

Section 404 of the Clean Water Act requires approval by the U.S. Army Corps of Engineers for discharge of dredged or fill material into waters of the United States. This approval is contingent upon the project complying with the guidelines of Section 404(b)(1) of the Clean Water Act. These guidelines are summarized as follows:

- Least Environmentally Damaging Practicable Alternative (LEDPA)-There must be no practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences.
- No Violation of Other Laws-The project must not cause or contribute to violation of State water quality standards or toxic effluent standards; must not jeopardize the continued existence of federally listed endangered and threatened species or their critical habitats (except rare circumstances involving an exemption under the Endangered Species Act); and must not violate any requirement to protect marine sanctuaries.
- No Significant Degradation-The project must not cause or contribute to significant degradation of the waters of the United States.
- Minimize and Mitigate Adverse Impacts-The project must include appropriate and practicable steps to minimize potential adverse impacts of the discharge on the aquatic ecosystem.

A Section 404 Permit will be applied for and obtained prior to construction. This analysis is to show that the screening and selection process used in the development of this NEPA document have identified the least environmentally damaging practicable alternative consistent with the Section 404(b)(1) guidelines.

Least Environmentally Damaging Practicable Alternative (LEDPA)

The Section 404(b)(1) Guidelines state "no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences." Furthermore, an alternative is considered practicable if "it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes."

The purpose of the I-69 Evansville to Indianapolis Project is to provide an improved transportation link between Evansville and Indianapolis which:

- Strengthens the transportation network in Southwest Indiana;
- Supports economic development in Southwest Indiana; and
- Complete the portion of the National I-69 project between Evansville and Indianapolis

This statement summarized the "overall project purposes" for this I-69 project, which are detailed in Chapter 2, Purpose and Need, of this FEIS. This FEIS evaluated alternatives in a four step process which served to eliminate alternatives that would not be considered practicable under Section 404(b)(1) guidelines, and selected the LEDPA. The evaluation steps are described in detail below.

Scoping

Starting in early 2000, study began of possible routes to connect Evansville and Indianapolis. In addition to those put forward by INDOT and FHWA staff, input was requested from review agencies, stakeholders, and the public. In order to facilitate this input, six public meetings were held in March and April of 2000 (in Terre Haute, Bloomington, and Evansville) during which route suggestions were requested. A scoping meeting also was held with review agencies and Metropolitan Planning Organizations (MPOs). As was the case during the entire study, input could be provided to INDOT and FHWA through the project web site (www.i69indyevn.org), via a toll-free project hot line (1-877-INDYEVN), and by letter. All project documents mentioned in this paper were available for viewing and downloading on the web site. This process resulted in the designation of 19 route concepts in December of 2000.

During this same period of time, the Purpose and Need for the project was developed. In August of 2000, a *Purpose and Need Discussion Paper* was released for review and comment. This Discussion Paper described the role of the Purpose and Need in the project, gave a Draft Statement of Purpose, and gave possible goals and performance measures supporting the Draft Statement. Three public meetings were held in August 2000 (in Indianapolis, Jasper, and Vincennes) to receive public input on the Discussion Paper.

The input received from the public and review agencies was analyzed, and a Draft Purpose and Need Statement was released in April of 2001. Responses to specific issues raised regarding the Discussion Paper also were released in April of 2001. Three public meetings were held (in Martinsville, Sullivan, and Oakland City) to receive public input on the Draft Purpose and Need Statement. Coordination meetings on the Draft Purpose and Need Statement also were held with review agencies and MPOs. Based upon the input received, the Purpose and Need Statement was modified for use in the Screening of Alternatives. The Purpose and Need Statement identified three "core goals." These are: Improving the Connection between Evansville and Indianapolis, Improving Personal Accessibility in Southwest Indiana, and Improving Freight Movements in Support of the National I-69 Project.

Screening

At the outset of the study, FHWA and INDOT determined that it was important to study a geographically diverse range of alternatives in the DEIS. This approach was adopted in recognition of the public interest in having an in-depth comparison in the DEIS of alternatives that varied widely in terms of their environmental impacts, costs, and benefits. In accordance with this overall approach, "geographic diversity" was included as a factor in the alternatives screening process. In particular, as part of the alternatives screening process, the 19 route concepts were grouped into four geographic categories. Alternatives within the same geographic category were then compared to their "peers." The weakest alternatives within each geographic category were eliminated, while the stronger ones were carried forward for detailed study in the DEIS. This process is described in the DEIS, Sec. 3.3.1, pp. 3-12 to 3-15.

Using this screening approach, the Draft Level 2 Alternatives Analysis Report was published in September 2001, identifying five alternatives for detailed study. Three public meetings were held in November of 2001 (in Greenwood, Linton, and Washington) to receive public input on the Draft Level 2 Report. Coordination meetings on the Draft Report also were held with review agencies and MPOs. As a result of input received in this process, three additional variations of the five alternatives were added to the analysis. This produced the 12 routes which were separately analyzed in the DEIS.

Because the screening process involved grouping the alternatives into several distinct geographic families, and then selecting the strongest alternatives within each family, the alternatives carried forward for detailed study differed widely in performance. In particular, some of the poorest-performing alternatives – which in a typical study might have been eliminated at the screening stage – were carried forward into the DEIS under the screening process used in this study. Those alternatives not carried forward at that time were eliminated based on performance that was relatively poor compared to other alternatives in its geographic family. However, in making the decision to carry forward poor-performing alternatives to give more detailed evaluation to a geographically diverse group of alternatives, FHWA and INDOT also pointed out that no decisions were being made about the regulatory status of the alternatives being carried forward or their practicability. Specifically, as quoted in the DEIS at p. 3-15, the alternatives screening report included the following caveat:

> [T]he possibility still exists that one or more of the alternatives [carried forward into the DEIS] will ultimately be found to be unreasonable. Also, the fact that an alternative is being carried forward at this stage does not signify that FHWA and INDOT consider that alternative to be prudent or practicable for purposes of any applicable resource-protection statutes.

Detailed Analysis

The DEIS analyzed all five alternatives (a total of 12 distinct routes as a result of different variations of those alternatives), all in the same level of detail, along with the No Build alternative. All of the alternatives were analyzed in terms of their performance on project goals; their environmental impacts; and their cost, including both construction cost and operation/maintenance cost. Based on this information, important preliminary conclusions about these alternatives were reached in the DEIS. These conclusions resulted in alternatives being designated as "preferred" or "non-preferred." The non-preferred alternatives fell into two groups. These were (1) alternatives which were non-preferred for environmental reasons and (2) alternatives which were non-preferred for their poor performance in meeting the goals of the project. Those alternatives considered "non-preferred" were also considered to be not practicable under Section 404(b)(1) guidelines. The following is a summary of the rationale for designating alternatives as non-preferred in the DEIS.

Alternatives Designated as "Non-Preferred" in DEIS for Environmental Reasons

Prior to publication of the DEIS, extensive consultations occurred among INDOT, FHWA, and state and federal regulatory agencies. These consultations provided important feedback regarding key environmental resources which should be avoided by any alternative. In particular as a result of these discussions, the following alternatives were designated in the DEIS as non-preferred for environmental reasons. These alternatives were considered not to be practicable due to significant adverse environmental consequences.

- **Alternative 3A.** This alternative had high and unavoidable impacts to Natural Environmentally Sensitive Areas, especially in the Beanblossom Bottoms Area. This alternative crosses the Beanblossom Nature Preserve, which is owned by the Sycamore Land Trust. The Indiana Department of Natural Resources has an easement on this property. Impacts also included close proximity, on new location, to hibernacula in the Garrison Chapel Valley area (winter caves used for hibernation) for the Indiana bat, a federally endangered species. Also, this alternative passes very close to the Muscatatuck National Wildlife Refuge.

- **Alternatives 5A and 5B.** Both of these alternatives had high and unavoidable impacts to Natural Environmentally Sensitive Areas, including the Tincher Special Area and Blue Springs Cavern. The impacts to the Tincher Special Area are particularly significant. The Tincher Special area, which is managed as part of the Hoosier National Forest, is a unique karst ecosystem which is home to a number of rare, threatened, and endangered species. Currently 17 troglobites (subterranean organisms found only in caves/groundwater) have been identified in this area. As surveys continue, it is anticipated that the area will soon be designated as a habitat of global significance (identified as an area with 20 or more known troglobitic species). Both Alternatives 5A and 5B would bisect the Tincher Special Area. Subsequent to publication of the DEIS, it was determined that the Tincher Special Area functions as a refuge and is protected under Section 4(f). These alternatives also would have an unavoidable impact to another Section 4(f) resource, the bike trails in the Martin State Forest.

Alternatives Designated as "Non-Preferred" in DEIS for Poor Performance

Based upon their relative performance on project goals, alternatives were rated in the DEIS as "low", "medium," or "high" on each of the nine project goals. A "high" rating indicates high relative performance in satisfying a project goal. Likewise, a "medium" rating indicates a moderate relative performance in satisfying a project goal, while a "low" rating indicates a low relative performance in satisfying a project goal. In the DEIS, the following alternatives were designated as non-preferred for their poor performance in satisfying project goals and were considered not practicable.

- **Alternative 1.** It has low performance on all project goals. On some performance measures for the core goal of personal accessibility (increase in one-hour access to Indianapolis, increase in access to major educational institutions), it provides no increase at all in accessibility. Of the 28 performance measures associated with the 9 project goals, it has the lowest performance on 19. Of the 9 performance measures associated with the three core goals, it has the lowest performance on 8.

- **Alternative 2A.** It does not perform high on any project goal. It performs poorly on four goals (including the core goal supporting freight movement).

- **Alternative 2B.** It does not perform high on any project goal. It performs poorly on three goals (including the core goal of supporting freight movement).

- **Alternative 4A.** It does not perform high on any project goal. It performs poorly on four goals (including the core goal of increasing personal accessibility).

Designation of "Preferred" Alternatives in DEIS

Five alternatives were designated in the DEIS as "preferred alternatives." These alternatives had good performance in satisfying the project goals, while having an acceptable level of environmental impacts. These were:

- **Alternative 2C.** It performs high on 6 of the 9 project goals, including the core goal of supporting freight movement. It has medium performance on the other three goals.

- **Alternative 3B.** It performs high on all 9 project goals.

- **Alternative 3C.** It performs high on 8 of the 9 project goals, including all three core goals.

- **Alternative 4B.** It was the one alternative "in the middle," in the sense that while it performed "low" on three goals, it also performed "high" on two goals. One of these goals on which it performed "high" was a core goal for the project (Improving the Evansville-Indianapolis Connection). It also was a comparatively low cost alternative (average capital cost of $1.08 billion). Given the combination of comparatively low cost and moderate to high performance on six of the nine project goals, it also was designated as a "preferred" alternative, even though its performance was not as good as the other preferred alternatives.

- **Alternative 4C.** It performed high on 7 of the 9 project goals, including two of the core goals (improving the Evansville-Indianapolis connection and supporting freight movements.)

Elimination of Alternative 3B.
In its comment letter on the DEIS, the US Fish and Wildlife Service (USFWS) stated its view that Alternative 3B was "environmentally unacceptable" due to adverse direct and indirect effects on the federally endangered Indiana bat and unique karst features and fauna in the Garrison Chapel Valley. Other review agencies provided similar comments. Upon reviewing these comments and reexamining the corridor for Alternative 3B, INDOT and FHWA concluded that there were unacceptable environmental impacts and it was not possible to modify Alternative 3B to address these objections. Therefore, Alternative 3B was eliminated from consideration.

Post DEIS Reconsideration of Alternative 1 - US 41/I-70
While clearly the poorest performing alternative, Alternative 1 also is the lowest-impact alternative for natural resources, since it makes the greatest use of existing four-lane roads of any of the alternatives. It also is the lowest-cost alternative. Due to these factors, various environmental review agencies (in particular, the U. S. Environmental Protection Agency) requested in their formal comments on the DEIS that INDOT and FHWA reconsider their finding that Alternative 1 was non-preferred.

Alternative 1 was reconsidered, and the following points state the findings of that reconsideration.

- **Performance**. Alternative 1 performs much more poorly than any other alternative. It is the only alternative with low performance on ***each*** project goal. Upon further consideration, INDOT and FHWA concluded that this performance is so low as to characterize this alternative as failing to satisfy essential elements of the Purpose and Need for this project. In particular, it provides very little benefit on the core goal of personal accessibility. It provides no benefit on two of the five performance measures for personal accessibility (increased one-hour access to Indianapolis and increased access to major institutions of higher education). For the five personal accessibility performance measures, it provides only 30% of the increase in accessibility provided (on average) by the five preferred alternatives.

  - **Additional Performance Data**. These findings regarding personal accessibility are further supported by additional analysis completed after the DEIS in response to request from the U.S. EPA. This additional analysis involved measuring travel-time savings among major population and employment centers in Southwest Indiana, as an additional means of evaluating the ability of the alternatives to improve accessibility for all Southwest Indiana

residents – not just expediting trips between Evansville and Indianapolis. The results of this analysis are shown in Tables 2.1 to 2.15. This data shows that Alternative 1 yields modest travel time improvements between Evansville and Vincennes, and virtually no travel time improvements among other origin-destination pairs. By contrast, the Preferred Alternative 3C yields substantial travel-time savings among multiple origin-destination pairs. While not formally considered as a performance measure, this additional data further confirms the personal accessibility findings in the DEIS. These tables are shown at the end of Part 2.

- **Impacts**. While its impacts to the natural environment are relatively low, it has significant socio-economic impacts. It would require the largest number of business relocations (70 - 131) as well as a moderately high number of home relocations (264-335).

- **Cost**. While its cost is the smallest of any alternative, it is still substantial, ranging from a low of $0.81 billion to a high of $1.04 billion. One of the preferred alternatives (4B) is similar in cost, ranging from $1.05 billion to $1.11 billion.

In summary, while Alternative 1 has lower impacts to the natural environment, its low performance on all project goals – and, in particular, on personal accessibility – means that it fails to achieve the basic purposes of the proposed action. Moreover, when the cost and socio-economic impacts of this alternative are taken into account, this alternative cannot be considered reasonable, prudent, or practicable. Therefore, it has been dropped from further consideration.

Post-DEIS Consideration of Hybrid Alternatives

The U.S. EPA requested in its comments on the DEIS that "hybrid" alternatives which combined the best-performing segments of existing routes be studied in order to determine if critical environmental resources could be avoided while maintaining high levels of performance. Specifically, statements by USEPA staff during the comment period on the DEIS recognized the value of a connection to Bloomington for I-69, and they suggested that such hybrid alternatives consider a connection to Bloomington.

The number of alternatives (with variations) which were considered provided a wide range of reasonable routes for connecting Evansville and Indianapolis. These alternatives were selected through an in-depth screening process with extensive public involvement and agency coordination, including input from U.S. EPA. At the end of the screening process, the routes proposed for detailed study were publicly announced, and no objections were received. Nonetheless, in a good-faith effort to respond to the U.S. EPA's comments on the DEIS, FHWA and INDOT developed and considered two potential "hybrid" routes after completing the DEIS.

- **2/3C Hybrid**. One of the hybrid alternatives was designated as the 2/3C hybrid. This alternative was suggested by USEPA staff in discussions during the DEIS comment period. This alternative would follow Alternative 2 to Northern Knox County, near the Knox/Greene County border. From there it would proceed east, crossing the White River near Sandborn, and join with alternative 3C near Elnora. From there, it would proceed via the 3C route to Indianapolis.

- **4/5A Hybrid**. The other hybrid alternative was designated as the 4/5A hybrid. This alternative would follow Alternative 4B to near Paragon in Morgan County. From there it would proceed north to the 5A routing through central Morgan County. It followed the 5A routing to I-70, and used I-70 to reach Indianapolis.

A map at the end of Part 2 shows both of these hybrid alternatives.

The following summarizes some of the key findings of the analysis of these hybrid alternatives. A full discussion of their impacts will be included in the FEIS.

Hybrid 2/3C

- ***Cost*** was a significant factor for the 2/3C hybrid. Its average capital cost was $2.0 billion, or nearly$260 million more than the cost of any DEIS Preferred Alternative.

- The performance on ***project goals*** for the 2/3C hybrid was comparable to Alternative 3C in some areas, but poor in other areas. It performed well on accessibility goals (e.g., an additional 123,000 people within three hours of Indianapolis). However, it performed poorly on two of the core project goals. Its Evansville to Indianapolis travel time savings was only 15 minutes, lower than that of any alternative other than Alternative 1. Its daily truck hours saved was only 1,700, which was lower than any other alternative in the DEIS.

- Its impacts on some aspects of the natural environment were in the low range among the build alternatives. Its wetland impacts were estimated at –79-82 acres. However, its core forest impacts were high (about 386 acres).

- Its impacts on the socio-economic environment were high. It would result in more home relocations than any other alternative (388-562). It also would cause the second-highest number of business relocations (62-119). These business relocations are higher than any Preferred Alternative.

In summary, while a worthwhile concept to examine, the combination of very high costs, poor performance, and high impacts to the socio-economic environment make the 2/3C hybrid non-preferred, when compared to the remaining preferred alternatives.

Hybrid 4/5A

- The performance of 4/5A was similar to that of 4B. It saved 25 minutes of travel time between Evansville and Indianapolis (as compared to 27 for 4B). It had medium performance in accessibility. However, it performed *low* in truck hours saved, with only 1,200 daily truck hours saved. This is lower than any alternative evaluated in the DEIS.

- It was somewhat higher in capital cost than alternative 4B, averaging $1.21 billion (versus $1.08 billion for 4B).

- It had high impacts to several natural resources. It would require between 5,320 and 5,370 acres of farmland, and would require 102 acres of wetlands.

- Could involve the addition of two traffic lanes from the proposed I-19 interchange with I-70 to Six Points Road above and beyond the lanes in the existing plus committed network.

- It had relatively high impacts to several natural resources. It would require between 5,320 and 5,370 acres of farmland, and would require a relatively high number of wetlands acres (102). See Table 6-25.

- Would require an additional crossing of the White River.

- Includes a 2.1 mile longitudinal floodplain impact to Highland Creek with potential channel relocations.

- Severe forest fragmentation adjacent to Bradford Woods based on IDNR comment letter dated July 16, 2002.

- Bald eagle nest (1999) located within the action area near Bradford Woods.

- Multiple transportation related historic properties, one of which is listed on the National Register, located in close proximity which would require further investigation in Tier 2.

In summary, this alternative offered similar to somewhat poorer performance than Alternative 4B, but at a somewhat higher cost. Given these factors, it was not a preferred alternative.

Alternative Refinements and Determining a Single Preferred Alternative

In its comment letter on the DEIS, the EPA pointed out that the Section 404(b)(1) Guidelines require, in the context of Section 404 permitting, the selection of the "least environmentally damaging alternative" or "LEDPA." In particular, the Section 404(b)(1) Guidelines require the selection of the practicable alternative that causes the least harm to the "aquatic environment," which consists of wetlands and other jurisdictional waters of the United States.

In response to this comment, FHWA and INDOT considered the Section 404(b)(1) Guidelines in selecting a preferred alternative. In particular, consideration was given to issues of both "practicability" and wetlands impact. Consistent with this approach, FHWA and INDOT made several decisions following the DEIS that further reduced the wetlands impacts of several alternatives. From a wetlands standpoint, the most important decisions included:

- Selection of the eastern variation around Washington. The selection of this route reduced the wetlands impacts of Alternatives 3 and 4.

- Shifting the location of the corridor to avoid the Prides Creek wetlands complex, as suggested by IDNR. This shift reduced the wetlands impacts of Alternatives 3, 4, and 5.

- Selection of the SR 37 variation near Indianapolis reduces the wetlands impacts of Alternatives 2C, 3B, 3C, 4C, and 5B by about 11 acres, as compared with the Mann Rd. variation.

In addition, FHWA and INDOT have reviewed each of the corridors to identify any areas where significant reductions in wetlands acreage impacts could be achieved through adjustments to the corridor. No other opportunities to reduce wetlands impacts have been identified at this time. However, during Tier 2, when detailed wetlands delineation takes place, along with detailed engineering, it is anticipated that further reductions will occur.

As part of the consideration of the application of Section 404(b)(1) Guidelines, the wetlands and other aquatic impacts for all alternatives were recalculated to account for the selection of the eastern variation around Washington, the shift to avoid Prides Creek, as well as the elimination of the Mann Rd. variation. Tables DD-1 and DD-2 give the aquatic impacts of the practicable

alternatives as reported in the DEIS as well as in the FEIS following the alternative refinements. The aquatic ecosystems were categorized into four categories including open water habitat, perennial streams, intermittent streams and wetlands. These categories are described below.

Wetlands have been identified using National Wetland Inventory (NWI) mapping. This category includes wetlands identified as Palustrine Forested (PFO), Palustrine Scrub/Shrub (PSS), Palustrine Emergent (PEM) and Palustrine Aquatic Bed (PAB). These wetland types are discussed in more detail in Section 5.19. Not included in the category were Palustrine Unconsolidated Bottom (PUB), Riverine and Lacustrine systems identified by NWI mapping. These wetland types were excluded from the wetland analysis because they are generally considered deep water habitats and are not usually determined to be jurisdictional wetlands according to the USACE.

Stream crossings were identified using United States Geological Survey (USGS) 7.5 minute series topographic quadrangle maps. These crossings were divided into two categories, intermittent and perennial, based on USGS designations.

Open water habitats were identified using USGS quadrangle maps as well as aerial photography and comparison with NWI mapping. Open Water as used in the DEIS can be described as any impoundment of water due to natural or man-made activities that has an insufficient amount of vegetation within the water body to make it an emergent wetland. This definition excludes streams and rivers.

Jurisdictional determinations and exact impacts on these aquatic sites will be included in the Tier 2 Studies. Values identified here are estimates from the EIS evaluation.

Table DD-1: Practicable Alternatives Aquatic Impacts as Reported in DEIS

Alternatives	Impact Type			
	Open Water Habitat	Perennial Stream Crossings	Intermittent Stream Crossings	Wetland Acres
Alternative 2C	25	40-45	80-95	90-110
Alternative 3C	5-10	30-40	65-80	90-150
Alternative 4B	20-25	35-40	70-80	115-165
Alternative 4C	20-25	45-50	85-95	140-190

Table DD-2: Practicable Alternatives Aquatic Impacts as Reported in FEIS

Alternatives	Impact Type			
	Open Water Habitat	Perennial Stream Crossings	Intermittent Stream Crossings	Wetland Acres
Alternative 2C	25	38-43	80-94	80-100
Alternative 3C	13	44	83	75
Alternative 4B	20	42	85	90
Alternative 4C	21	51	89	105

Table DD-2 shows that of the four practicable alternatives, Alternative 3C has the least impact to wetlands, intermittent streams and open water habitat. These numbers show that Alternative 3C is the practicable alternative with the least impacts to the aquatic ecosystem, which does not have other significant adverse environmental consequences. Alternative 3C has been selected as the single preferred alternative, and is considered the least environmentally damaging practicable alternative based on Section 404(b)(1) guidelines. In a response letter dated September 25, 2003, the USACE stated "we believe the two-tier EIS process continues to be an appropriate tool for

identifying and evaluating environmental concerns, socio-economic issues and accessibility relative to the prupose and need for the project. More importantly, the Tier 1 EIS has specifically identified all of the important natural resource areas within the five alternative corridors. This process is satisfactory to the Corps for early coordination under Section 404 of the CWA". Figure DD-1 shows a graphical comparison of wetland impacts for the preferred (practicable) alternatives including Alternative 3B. Figure DD-2 summarizes the EIS evaluation of alternatives.

Figure DD-1 – Comparative Wetland Impacts

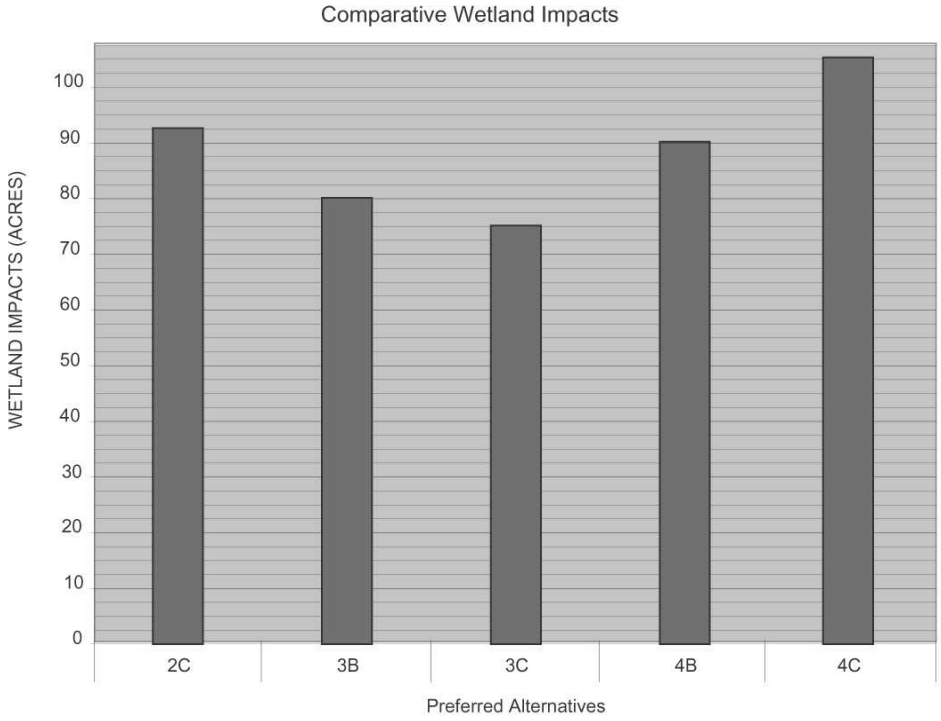
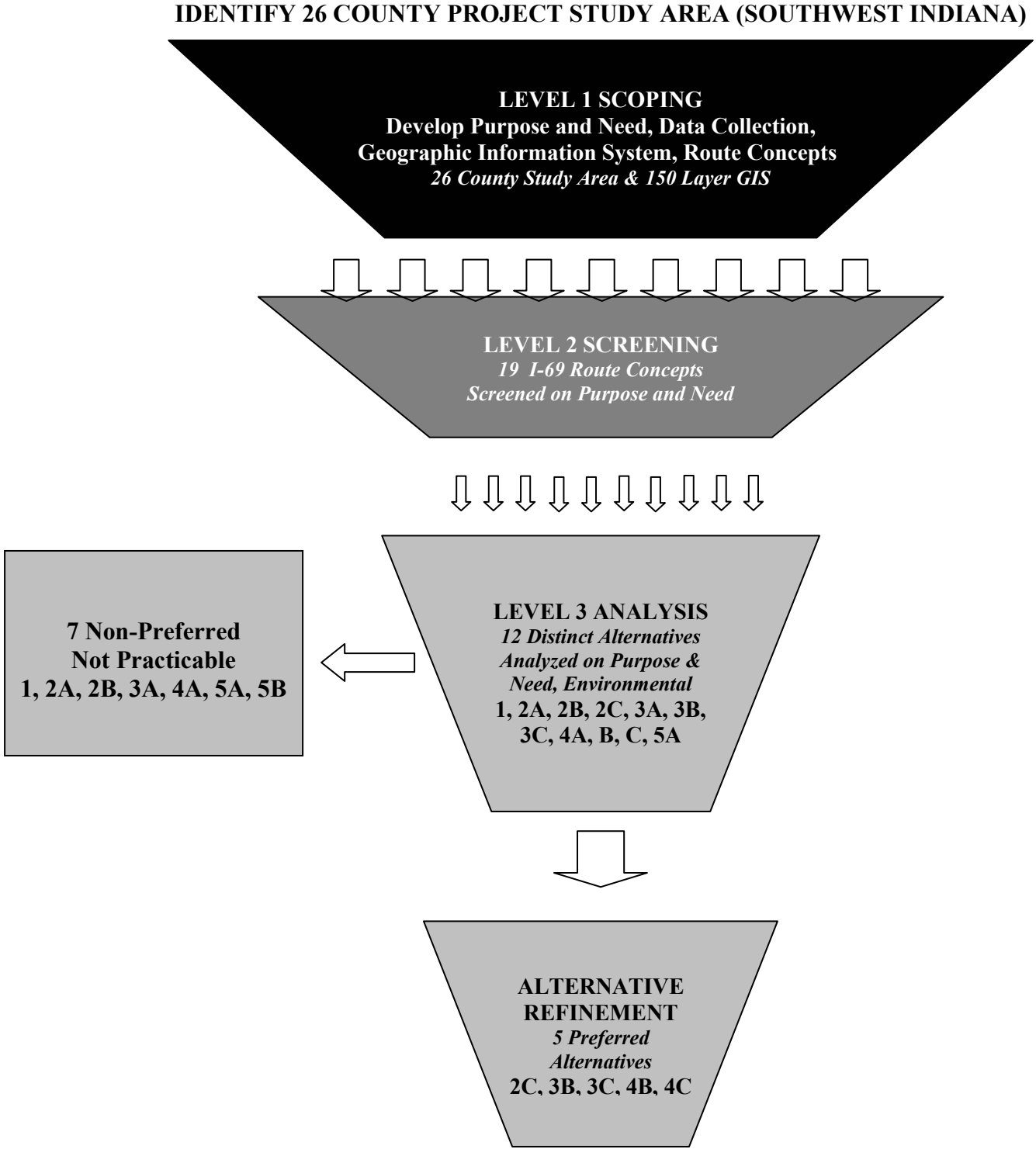


Figure DD-2
EVALUATION PROCESS
I-69 Evansville to Indianapolis FEIS



Selected Alternative 3C
Least Environmentally Damaging Practicable Alternative

No Violation of Other Laws

The Section 404(b)(1) Guidelines also identify that the project must not cause or contribute to violation of State water quality standards or toxic effluent standards; must not jeopardize the continued existence of federally listed endangered and threatened species or their critical habitats (except rare circumstances involving an exemption under the Endangered Species Act); and must not violate any requirement to protect marine sanctuaries. To ensure that Alternative 3C conforms to this requirement, additional evaluations have been completed subsequent to publication of the DEIS including a Conceptual Biological Assessment with conceptual mitigation plans.

State Water Quality and Toxic Effluents

Conformity with State water quality standards are reviewed by the Indiana Department of Environmental Management (IDEM) and final approval of the project will be granted via a 401 Water Quality Certification in conjunction with the 404 permit. The Section 401 State Water Quality Certification will be applied for and obtained prior to construction. This review focuses on modifications to waters of the State that have the potential to affect water quality as well as stormwater runoff of contaminants into waters of the State which have the potential to affect water quality. Based on the EIS evaluation, the project would not contribute to any violation of State water quality standards. Continued coordination with IDEM through the Tier 2 Studies will ensure compliance with State water quality standards. Additionally, no toxic effluent standards would be violated by Alternative 3C.

Federally Listed Endangered and Threatened Species

Based on the evaluation of threatened and endangered species performed under the EIS and reported in section 5.17, as well as the Section 7 Consultation conducted with the USFWS, it has been determined that Alternative 3C would not jeopardize the continued existence of species listed as endangered or threatened. Additionally, Alternative 3C would not result in the destruction or adverse modification of a critical habitat. Continued coordination with the USFWS during Tier 2 Studies will ensure that these species and their habitat will be protected. These measures include context sensitive solutions for design, construction, operation and maintenance; restoration/replacement of wetlands and forests in the species Action Areas; conservation/preservation of existing habitat within the species Action Areas; and education/research to provide a better understanding of the species and their habitats.

Marine Sanctuaries

No marine sanctuaries exist within the project study area. Thus Alternative 3C will not violate any requirement to protect marine sanctuaries.

No Significant Degradation

The third requirement of the Section 404(b)(1) Guidelines prohibits any discharge which will cause or contribute to the significant degradation of the waters of the United States. In evaluating significant degradation, several criteria may be considered individually or collectively including:

- Impacts on human health or welfare, including but not limited to effects on municipal water supplies, plankton, fish, shellfish, wildlife, and special aquatic sites;
- Impacts on life stages of aquatic life and other wildlife dependent on aquatic ecosystems, including the transfer, concentration, and spread of pollutants or their byproducts outside of the disposal site through biological, physical, and chemical processes;
- Impacts on aquatic ecosystem diversity, productivity, and stability, may include, but are not limited to, loss of fish and wildlife habitat or loss of the capacity of a wetland to assimilate nutrients, purify water, or reduce wave energy; or
- Impacts on recreational, aesthetic, and economic values.

The Preferred Alternative 3C is a corridor, generally 2000 feet wide, which connects Evansville, Oakland City, Washington, Crane Naval Weapons Support Center, Bloomington, Martinsville, and Indianapolis. The 2000 foot wide corridor for Alternative 3C is intended to give latitude during the Tier 2 studies to adjust alignments to lessen impact to the natural and human environment. Consideration will be given during Tier 2 to designs involving independent alignment of the northbound and southbound travel lanes due to issues of topography and natural resource avoidance. The actual right-of-way will only be what is needed to construct the facility in an environmentally sensitive manner and to provide mitigation measures.

Tier 2 NEPA studies will analyze access and frontage roads, as well as the mainline I-69 facility. The design of the access and frontage roads will be developed during the design phase following Tier 2 NEPA. The exact number and location of interchanges will not be finalized until Tier 2. Specific design of these interchanges will be developed during the design phase following Tier 2 NEPA.

The aquatic impacts of Alternative 3C based on the Tier 1 analysis are summarized in Table DD-2. These impacts include: 75 acres of wetlands; 44 perennial stream crossings; 83 intermittent stream crossings; and 13 open water habitats impacted. Based on the Tier 1 analysis, the selected alternative, 3C, will not cause or contribute to the significant degradation of waters of the United States. No significant impact to human health or welfare will occur from the proposed impacts to waters of the United States. No significant impact to aquatic ecosystem diversity, productivity and stability, or aquatic ecosystem-dependent wildlife populations will occur from the proposed impacts. In addition, there will be no significant impact to recreational, aesthetic, and economic values of waters of the United States based on the proposed impacts. Additional coordination with environmental review agencies during Tier 2 studies, when preliminary design is performed and final alignments identified, will ensure that no significant degradation will occur from the development of the selected alternative.

Minimize and Mitigate Adverse Impacts

The fourth requirement of the Section 404(b)(1) Guidelines require that any impacts caused by the project be minimized prior to the issuance of a permit. Following the selection of Alternative 3C as a preferred alternative, multiple refinements of the alignment have been made to minimize the impacts to special aquatic sites including wetlands. These efforts included selection of variations that have fewer potential wetland

impacts as well as minor shifts to avoid wetland complexes. The commitment to bridge specific floodplain areas that include significant wetland complexes will further reduce potential impacts. Based on the refinements, the estimated wetland impacts have been reduced from an estimated range of 90-150 acres to approximately 75 acres. Further refinement during the preliminary design in the Tier 2 Studies is also anticipated to further reduce impacts of Alternative 3C.

In addition, a mitigation package has been developed, including compensatory wetland mitigation, to offset unavoidable impacts. This proposed mitigation will be consistent with the 404(b)(1) Guidelines under the Memorandum of Agreement between the Environmental Protection Agency and the Department of the Army concerning the determination of mitigation. This mitigation is inclusive of all plans to ensure no significant degradation and will be included in the conditions of the Section 404 permits that will be required in the Tier 2 Studies.

The "Tier 1 Forest and Wetland Mitigation and Enhancement Plan" proposes to create a minimum of 195 acres of forested wetlands (3 to 1 replacement ratio), 15 acres of scrub/shrub wetlands (3 to 1 replacement ratio), 10 acres of emergent wetlands (2 to 1 replacement ratio), 3,186 acres of upland forest (3:1 replacement ratio) and 55 acres of buffer (usually in prairie vegetation) for wetland impact sites. This Mitigation and Enhancement Plan is offering more than minimum amount of mitigation. It offers 4,050 acres of total mitigation in the Action Area and 1,180 acres outside the Action Area. The total amount of mitigation is approximately 5,230 acres or 1,769 acres more than the minimum needed. The impacted areas are based on NWI data and are anticipated to be greater than the actual impacts. The minimum-required mitigation areas were developed based on the estimated impacts and the Wetland Memorandum of Understanding replacement ratios. Actual impacts will be delineated in the Tier 2 studies, therefore these numbers are subject to change. Further enhancement will be determined with the appropriate regulatory agencies on a case-by-case basis.

Impacts of this project on the nation's wetland resources appears greater than anticipated actual impacts for all alternatives due to the use of NWI data. Wetland impacts for Alternative 3C are expected to be far less after final delineations are completed in Tier 2 Studies. To offset impacts of the project, compensatory mitigation is offered to replace lost wetlands within the same watershed, and replace or protect upland forest at locations within the Alternative 3C study area. Replacement of wetlands and upland forests at proposed mitigation sites will provide wildlife functions and human values. Mitigation sites will be restricted from other uses to ensure they remain in a natural condition in perpetuity.

Conclusion

This analysis shows that the detailed evaluation completed in the DEIS identified five preferred (practicable) alternatives (2C, 3B, 3C, 4B and 4C). Subsequently, Alternative 3B was identified as non-preferred (not practicable) by INDOT and FHWA after a re-evaluation prompted by review agency comments. Of the four remaining DEIS preferred (practicable) alternatives, Alternative 3C is the least environmentally damaging. Additionally, the procedures to be followed during Tier 2 will ensure that the development of Alternative 3C will cause no violation of other laws and will not cause or

contribute to significant degradation of waters of the United States. Finally, preliminary plans have been developed to minimize and mitigate unavoidable impacts caused by Alternative 3C. These factors show that the selected Alternative 3C is the LEDPA and meets all Section 404(b)(1) guidelines for the selection of an alternative.

U.S. Army Corps of Engineers Letter

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September 25, 2003

Operations Division
Regulatory Branch (North)
ID No. 200301014-gdn

Mr. Michael Grovak
Bernardin, Lochmueller & Associates
6200 Vogel Road
Evansville, Indiana 47715

Dear Mr. Grovak:

This is in regard to your letter dated July 29, 2003, which included a copy of the Preferred Alternative and Mitigation Documents for the proposed Interstate 69 corridor project from Evansville to Indianapolis, Indiana. You have requested our comments for consideration in the preparation of the Final Tier 1 Environmental Impact Statement (EIS).

In regard to the preferred alternative package, a detailed analysis of the five preferred alternatives (including 2 hybrid routes) were developed and analyzed based on the three core goals outlined in the purpose and need statement. The U.S. Environmental Protection Agency (EPA), suggested hybrids since they felt a more extensive analysis would be necessary particularly in the karst and other critical resource sensitive areas. The hybrid alternatives are combinations of other alternatives outlined in the Tier 1 Draft EIS. It was noted that Alternative 3C was selected as the "Single Preferred Alternative". We recommend that further site assessment and construction measures be studied in Tier 2 to further avoid and minimize impacts to "waters of the U.S." associated with each crossing. For example, if further site assessment indicates a particular stream or wetland has high quality functions and values, low impact options such as clear span bridging should be considered to avoid and minimize impacts. This type of analysis would satisfy the Section 404(b)(1) guidelines to insure that the alternative construction methods for each crossing of a "water of the U.S." is the least environmentally damaging practicable alternative when considering cost, existing technology and logistics in light of the overall project purpose.

We have completed our review of the proposed Forest and Wetland Mitigation and Enhancement Plan developed for the Tier 1 EIS. This plan identifies 16 sites that are potential candidates for restoration/ replacement, conservation/preservation and includes an educational and research theme. This appears to be an acceptable approach. However, the issues of concern to the Corps as it pertains to mitigation for permits that may be issued under Section 404 of the Clean Water Act (CWA) would be as follows:

1. The avoidance of stream and wetland impacts to the maximum extent practicable.
2. In kind replacement when mitigation is deemed necessary.
3. Mitigation ratios should be based on a function and value assessment of the resource being affected.
4. Determining when it is appropriate to mitigate off-site.
5. Insuring off-site mitigation is located within the 8-digit watershed area.
6. Insuring cumulative impacts to "waters of the U.S." do not exceed minimal impact level.

These issues would be evaluated on a site-specific and cumulative impact basis for impacts under Section 404 of the CWA.

Please be advised, we have checked our Regulatory database and confirmed that no existing wetland mitigation sites or wetland mitigation banks would be impacted by the Alternative 3C alignment. In addition to the 16 candidate sites (mentioned above), the Corps would not be opposed to additional mitigation being performed at an existing mitigation site if determined appropriate as part of the permit process. I note that the Indiana Department of Transportation has existing mitigation sites in some southern Indiana Counties that may be enlarged or improved. However, additional management and monitoring of these sites would be expected.

In considering a project of this magnitude we believe the two-tier EIS process continues to be an appropriate tool for identifying and evaluating environmental concerns, socio-economic issues and accessibility relative to the purpose and need for the project. More importantly, the Tier 1 EIS has specifically identified all of the important natural resource areas within the five alternative corridors. This process is satisfactory to the Corps for early coordination under Section 404 of the CWA.

We understand that the Tier 2 process would address site-specific detail on project impacts to include further avoidance, minimization, and compensation of unavoidable impacts to "waters of the U.S.". Permit processing could begin at the late stages of the Tier 2 evaluation. However, final design plans would need to be developed and the footprint of fill in "waters of the United States," including wetlands determined for each site and work activity before submitting an application to us. This information is necessary in order to determine whether or not each individual crossing could be authorized under a nationwide permit, the Indiana Regional General Permit or if an individual Department of the Army permit is required. In this case, it would be appropriate to submit one application for each segment of highway that has independent utility.

We appreciate the opportunity to participate in the Tier 1 process and look forward to coordinating with you during the Tier 2 evaluation. If you have any questions concerning this matter, please contact this office at the above address, ATTN: CEORL-OP-FN or call Mr. Gerry Newell at (502) 315-6683. Any correspondence on this matter should refer to our ID Number 200301014-gdn.

Sincerely,

James M. Townsend

James M. Townsend
Chief, Regulatory Branch
Operations Division

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